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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/858,144	05/16/97	SETLAK D	SE-1334-SY(1

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EXAMINER	
NOVIK, D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary	Application No. 08/858,144	Applicant(s) Setlak et al.
	Examiner Dmitry A. Novik	Group Art Unit 2721

☒ Responsive to communication(s) filed on *May 16, 1997*.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-37* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) *27-29 and 37* is/are allowed.

☒ Claim(s) *1-4, 6-9, 13, 14, 16, 17, 22, 25, 30-32, and 35* is/are rejected.

☒ Claim(s) *5, 10-12, 15, 18-21, 23, 24, 26, 33, 34, and 36* is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *1,2*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

2. Claims 1-3, 9, 22,26 and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Borza (US Patent 5,778,089).

As to claim 1, Borza discloses a fingerprint sensing device, comprising:

a substrate (Fig. 5b, item 8; column 8, line 6);

a plurality of semiconductor devices adjacent said substrate and defining active circuit portions (Fig. 2; column 4, lines 41-43);

a first metal layer interconnecting semiconductor devices (Figures 2 and 3; column 4, lines 41 and 42; column 5, lines 3 and 4; note, that metallic conductors of that metal layer interconnect semiconductor devices which constitute such active circuit portions of fingerprint sensor as three terminal switching devices and amplifiers);

a first dielectric layer adjacent said first metal layer (note, that such dielectric layer is inherently needed to separate different metallic conductors of the first metal layer);

a second metal layer adjacent said first dielectric layer defining a ground plane (Fig. 1, item 15; column 4, lines 29-36; note, that second metal layer is used to make ground connections particularly in amplifiers, such ground connections are shown in Fig. 3);

a second dielectric layer adjacent said second metal layer (Fig. 2, item 25);

a third metal layer adjacent said second dielectric layer and comprising an array of electric field sensing electrodes connected to active circuit portions for generating signals related to a sensed fingerprint (Fig. 2, items 21 and 24).

Note, that spatial (three dimensional) relationship between metal and dielectric layers is described in claim 1 of current application as **adjacent** spatial relationship, therefore, it does not mean that such adjacent metal and dielectric layers are in **different** neighboring flat planes, it does not preclude that such adjacent metal and dielectric layers are adjacent layers in any three dimensional surface, that they are in the **same** plane, in particular.

As to claim 2, Borza discloses a fingerprint sensing device further comprising a third dielectric layer adjacent said third metal layer (Fig. 2, item 22).

As to claim 3, Borza discloses a fingerprint sensing device comprising a package surrounding substrate and having an opening aligned with the array of electric field sensing electrodes (column 4, lines 27-29, 35 and 36).

As to claim 9, Borza discloses a fingerprint sensing device comprising means for electrostatic discharge (ESD) protection (Fig. 3, item 31; column 5, lines 5-7).

As to claims 22 and 26, Borza discloses a fingerprint sensing device comprising:

a substrate (Fig. 5b, item 8; column 8, line 6);

a plurality of semiconductor devices adjacent said substrate and defining active circuit portions for generating an output related to a sensed fingerprint (Fig. 2; column 4, lines 41-43);

a package surrounding said substrate (column 4, lines 27-29, 35 and 36);

a finger charge bleed means to protect the active circuit portions (Fig. 3, item 31; column 5, lines 5-7, note, that Borza marks a finger charge bleed means as means for ESD protection); and further comprising at least one conductive layer comprising an array of electric field sensing electrodes connected to the active circuit portions (Fig. 1, item 17; Fig. 2, items 21 and 24).

As to claims 30-32, these claims are rejected the same as corresponding claims 1-3 because claims 30-32 disclose a method for making a fingerprint sensor described in corresponding rejected claims 1-3.

Claim Rejections - 35 U.S.C. § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 13,14,16,17 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza in view of Benenati (US Patent 3,398,558).

As to claims 13,16 and 17, Borza discloses a fingerprint sensing device comprising:

a substrate (Fig. 5b, item 8; column 8, line 6);

a plurality of semiconductor devices adjacent said substrate and defining active circuit portions for generating an output related to a sensed fingerprint (Fig. 2; column 4, lines 41-43);

a package surrounding said substrate (column 4, lines 27-29, 35 and 36).

Borza does not disclose a fingerprint sensing device having external electrode for contact by a finger and power control means for controlling operation of active circuit portions based upon sensing finger contact with said external electrode.

Benenati discloses a fingerprint control system which has power control means (Figures 2 and 3, item 4) activated by finger contact (Fig. 3, items 29,26 and 4).

Therefore, it would have been obvious to a person of the ordinary skill in the art to combine teachings in Borza and Benenati in order to conserve power by powering active circuit portions of fingerprint sensor only when finger activates power control means and to protect active circuit portions of fingerprint sensor by grounding said active circuit portions of fingerprint sensor when finger does not activate said power control means.

Claims 35 is rejected the same as claims 13,16 and 17 because claim 35 discloses a method for controlling operation directly implemented by a fingerprint sensor described in rejected claims 13,16 and 17.

As to claim 14, Borza discloses a fingerprint sensing device described in claim 13 of the current application further comprising at least one conductive layer comprising an array of electric

field sensing electrodes connected to active circuit portions (Fig. 1, item 17; Fig. 2, items 21 and 24)

5. Claims 4,6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borza as applied to claims 1 and 3 above, and further in view of Benetati.

Borza discloses a fingerprint sensing device described in claims 1 and 3 (see item 2. of this Action).

Borza does not disclose a fingerprint sensing device further comprising external electrode for contact by a finger and power control means for controlling operation of active circuit portions based upon sensing finger contact with said external electrode.

Benenati discloses a fingerprint control system which has power control means (Figures 2 and 3, item 4) activated by finger contact (Fig. 3, items 29,26 and 4).

Therefore, it would have been obvious to a person of the ordinary skill in the art to combine teachings in Borza and Benenati in order to conserve power by powering active circuit portions of fingerprint sensor only when finger activates power control means and to protect active circuit portions of fingerprint sensor by grounding said active circuit portions of fingerprint sensor when finger does not activate said power control means.

Allowable Subject Matter

6. Claims 27-29 and 37 are allowed.

7. The following is an examiner's statement of reasons for allowance:

The prior art of the record fail to teach or suggest singly and/or in combination a fingerprint sensor comprising at least one electrically conductive layer making up an array of pairs of electric field sensing electrodes and associated shield electrodes and respective amplifiers connected between each pair of electric field sensing electrodes and associated shield electrodes.

8. Claims 5,10-12,15,18-21,23,24,26,33,34 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Dmitry Novik whose telephone number is (703) 308-8765. The examiner can normally be reached on Monday-Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number for this Group is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 305-3900.

DN ±.N.

September 25, 1998

LEO H. BOUDREAU
SUPERVISORY PATENT EXAMINER
GROUP 2700